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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,033	02/07/2002	Ertugrul Berkcan	GE-07020	1941

7590

08/29/2003

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EXAMINER

KOBERT, RUSSELL MARC

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,033

Applicant(s)

BERKCAN ET AL.

Examiner

Russell M Kobert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Zappe (3764905).
3. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Gary (4639665).

Gary anticipates a current sensor arrangement (Figure 1) for measuring a subject electrical current flow, said current sensor arrangement comprising: an elongated conductor (10) having fixed dimensions, and being configured for producing a generally planar magnetic field within a spatial region adjacent said conductor when said subject electrical current flows therethrough (col 2, ln 22-27); a magnetic field sensing device (12) which produces a signal voltage in response to a magnetic field in a particular direction therethrough, the magnitude of which signal voltage is approximately linearly related to the magnitude of said magnetic field in its vicinity, at least over a limited range of magnetic fields, which magnetic field sensing device may be temperature-dependent or variable in its sensitivity from device to device, said magnetic field sensing device being located in said spatial region with said particular direction generally parallel to said planar magnetic field, whereby said magnetic field sensing device produces a

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magnetic-field-representative signal voltage in response to said magnetic field (col 2, ln 27-52); controllable test current generating means (22) magnetically coupled to said spatial region, for, when energized, generating a predetermined current flow for generating a test magnetic field component in said spatial region, which test magnetic field component is generally parallel with said planar magnetic field, whereby said magnetic field sensing device produces a magnetic-field-representative signal voltage related to the magnitude of the sum of said subject electric current and said predetermined current (col 3, ln 48-55); control means (15, 19, 21) coupled to said magnetic field sensing device and to said test current generating means, for recurrently energizing said controllable test current generating means, and for determining the magnitude of said current flow in said elongated conductor from at least (a) the magnitude of said magnetic-field-representative signal voltage during those times during which said controllable test current generating means is energized, (b) the magnitude of said magnetic-field-representative signal voltage during times in which said controllable test current generating means is not energized, and (c) the magnitude of said predetermined current; as recited in claim 1.

As to claim 4, having said conducting means comprises current conductors connected said elongated conductor on either side of said spatial region is considered an inherent characteristic of Gary.

4. The following is a statement of reasons for the indication of allowable subject matter:

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The added limitation of said controllable test current generating means comprises a second electrical conductor extending through said spatial region, electrically isolated from said elongated conductor; and said control means comprises switching means, for, when in the conducting state, gating said predetermined current to said second electrical conductor, and for, when in the nonconducting state, preventing said predetermined current from flowing in said second electrical conductor; as mentioned in claim 5 has not been found. It is further noted that the examiner's reasons are understood to be predicated upon consideration of each of the claims as a whole, and not upon any specific elements of the claims.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Drafts et al (5874848) shows an electric current sensor utilizing a compensation configuration.

Maier et al (5966008), Tierman et al (6150809) show an electric current sensor utilizing a magnetoresistive electrical element.

Steiner et al (6356068) shows a system for galvanically insulated current measurement.

Coehoorn (6384600) and Ruigrok et al (6486662) show a magnetic field sensor comprising a spin tunneling junction element.

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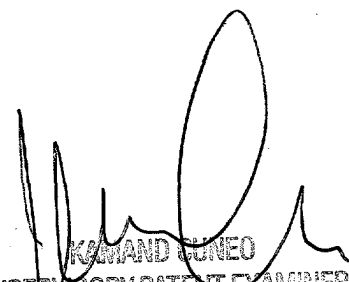
6. A shortened statutory period for response to this action is set to expire three month(s) from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kobert whose telephone number is (703) 308-5222.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Russell M. Kobert
Patent Examiner
Group Art Unit 2829
August 20, 2003



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